

**A FIELD STUDY OF GROUP TIPPING BEHAVIOR:
EQUITY VERSUS DIFFUSION OF RESPONSIBILITY**

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Tony Andrew Harris
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Abstract

A field study on tipping conducted by Freeman, Walker, Borden, and Latane (1975) found that smaller dining parties left proportionately larger tips than did larger parties. Freeman et al. explained the results as being due to diffusion of responsibility.

Two separate articles (Elman, 1976; Snyder, 1976) criticized the diffusion of responsibility explanation and suggested the results could be explained by equity theory. Groups leave relatively smaller tips because, per person, they receive less service from the waitress.

The present field study used 393 diners in 153 groups to replicate the inverse relationship found by Freeman et al. Of the total subjects, 44 in 19 groups were used to test the equity prediction. Service rendered or effort by the waitress was equated to time spent by the waitress with the party. The amount of time the waitress was actually with the diners was surreptitiously measured by the experimenter.

The inverse relationship between group size and tip size found by Freeman et al. was replicated ($p < .05$). Of the 19 timed groups, the same relationship was negative but not significant. There was a marginally significant negative correlation ($p < .08$) between time spent and group

size. The relation between time per person and tip size, though not significant, was positive. Comparing tip size and bill size holding group size constant again resulted in a marginally significant negative correlation ($p < .07$) among the timed groups.

The obtained relationships are consistent with the equity theory explanation. The overall low correlations are felt to be due to the small number of groups upon which time measurements were made and inability to control for possible relevant extraneous variables.

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To the Graduate Council:

I am submitting herewith a Thesis written by Tony Andrew Harris entitled "A Field Study of Group Tipping Behavior: Equity Versus Diffusion of Responsibility." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology

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We have read this thesis and
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CHAPTER I

INTRODUCTION TO THE PROBLEM

It has been a long standing custom to give a small amount of money to persons who personally perform a service such as running errands, carrying luggage and serving food. This amount of money or T.I.P. (to insure promptness) is generally agreed in Anglo-European countries to be 15% of the bill. Other factors may affect the amount of the tip. Rosenbaum (1972) noted the following comments: "I always give a big tip when I'm out with friends because I don't want to look like a cheapskate . . . When I'm alone I leave a small tip. After all, I don't really care what the waitress thinks of me."

A field study was done recently that investigated the effect of the size of the dining party in a restaurant on the amount of the tip left for the server (Freeman, Walker, Borden & Latane, 1975). It was found that the amount of the tip (the percentage of the total bill) varied inversely with the size of the group. Individuals dining alone tipped nearly 19%, couples tipped nearly 16% and groups of four to six persons tipped only 13.5% of the bill. The results of the study by Freeman et al. were explained as providing support for a diffusion of responsibility theory. It was theorized that as the number of people in the dining party

increased any group member would feel less individual responsibility for the waiter's or waitress's well-being. That is, a diner in a group would feel less pressure to leave a large tip than would the person dining alone.

CHAPTER II

REVIEW OF THE LITERATURE

The concept of diffusion of responsibility has been used to explain many group phenomena. For example, Darley and Latane (1970) suggested it as being a determinant of the lack of bystander intervention in emergency situations. Bystander intervention, or the lack of it, came to public attention several years ago with the Genovese case. Miss Genovese was murdered while at least thirty-eight people watched. None of the witnesses helped or even called the police. Interviews with the witnesses fostered the hypothesis that the very number of witnesses mitigated against action being taken (Darley & Latane, 1968), an outcome supported by a great deal of empirical research (Latane & Darley, 1970).

Diffusion of responsibility has also been used to explain the Risky Shift phenomena (Wallach, Kogan & Bem, 1964). Under certain circumstances, it has been found that groups make riskier decisions (i.e., those with a lower probability of success) than the decisions made by individuals. Wallach, Kogan and Bem contended that people making decisions in groups might feel it is safer to recommend a more radical plan of action than they would

as individuals because if failure results, no single advisor can be identified and blamed for the recommendation.

Assuming that people do not wish to give money away and yet feel an amount of obligation to the waiter or waitress, diffusion of responsibility might also operate in the tipping situation. Freeman et al. state: "We suggest that diffusion of responsibility also operates in non-emergency settings to the extent that many people contribute to a check, the responsibility of each to the waiter may be psychologically divided among the people present" (p. 588).

Consistent with their hypothesis, Freeman et al. found that as the size of the dining party increased, the percentage of the total bill tipped decreased. However, questions have been raised as to whether the effect is due to diffusion of responsibility. In one reply to the article by Freeman et al., Snyder (1976) argued that a reasonable alternative explanation is the idea of equity (Adams, 1965). Equity refers to perceived fairness in social exchanges. Equity or fairness is seen to exist when the outcomes received by each participant and the contributions they supply are in approximate balance (Baron & Byrne, 1974).

Individuals seek for themselves maximum rewards at a minimum cost. Groups can maximize collective rewards by evolving systems for "equitably" apportioning rewards and costs among members (Berkowitz & Walster, 1976). Berkowitz and Walster also state that when individuals find themselves

participating in inequitable relationships, they become distressed; the more inequity, the more distress. Inequity occurs whenever one party feels the relationship between his or her inputs and outcomes is out of balance. If one member of the dyad experiences inequity, the deprived party will express dissatisfaction and act to restore equity. For example, suppose a worker is paid less, or more, than he feels he deserves. The options open to this worker include slowing, or increasing, his production rate (Adams, 1965). When the worker feels he is paid less, equity can be restored by reducing his production rate. If the pay is more, the production would take an upward turn.

In proposing that equity theory could account for the results of the Freeman study, Snyder felt that groups might be served in a restaurant with only a slight increase in effort over that which would be required to serve an individual. With the amount of service per person being less in groups, it is reasonable for the tip percentage to be less. Since the customers in groups are relatively deprived in terms of service, they pay the waitress or waiter a smaller tip to restore equity.

Freeman et al. based their explanation of the results only on the number of people in the group disregarding other possible factors. Snyder (1976) conducted a survey to test the equity theory proposition. Ten waitresses and one waiter at nine different restaurants were interviewed. The

question asked was would they rather wait on one party of four people or four parties of one person each. The diffusion of responsibility explanation implies that the preference would be for the single people because individuals tip a greater percentage of the bill. The equity theory proposal that the tip is proportional to the waitress' efforts leads to two possible predictions. One is that there would be no preference, regarding the size of the dining party, if the decrease in the tip left by a group of four is balanced by the waitress's decreased effort in serving the customers in one group. However, if the decreased tip of the group of four more than compensates the waitress for her effort, she will choose the one group of four people as the party on which she would rather wait. This prediction is clearly opposite to that made by the diffusion of responsibility theory.

All eleven people preferred one party of four to the four parties of one diner each. Most of the respondents pointed out that four people together would be less work than four people separately. Larger parties may tip a smaller percentage because they perceive it to be a fair compensation for the service received and not simply because there are more of them to share the responsibility to the waitress.

Elman (1976) also suggested that equity theory might provide a better explanation for the results of the Freeman

study than diffusion of responsibility. It was stated by Elman that research should be done that would directly pit the two possible explanations against each other. The relationship between group size and tip should be examined across bills of different size holding the size of group constant. Further, Elman speculated that a restaurant with a wide range of entree prices should be studied to see if the same relationship held that was found by Freeman et al. in a restaurant with a restricted price range.

CHAPTER III

RESEARCH DESIGN

The present field study was designed to take advantage of the suggestions made by Snyder and Elman and provide the situation in which the equity theory interpretation of the inverse relation between tip size and group size could be tested. The main difference between this study and that by Freeman et al. is an attempt was made to measure the amount of effort on the part of the waitress. The basic assumption made in this study is that the time spent by the waitress with the dining party is analogous to effort or the service rendered. A further methodological distinction in the present study is that direct observations of the waitresses were made. In the Freeman et al. study, all reports were based on the testimony of the waitress and waitresses involved.

It is hypothesized that the inverse relation between size of tip and size of dining party found by Freeman et al. will be replicated. Evidence for the equity theory interpretation will be obtained in two ways. First, equity theory would predict a positive correlation between the amount of time per person the waitress spent with the dining group and the tip size. Secondly, following Elman's suggestion, when group size is held constant, a negative

correlation should be obtained between the size of the tip and the size of the bill.

CHAPTER IV

METHOD

Subjects

Data on tip size and party size were obtained for 153 groups totaling 393 people. The groups were distributed as follows: 20 groups of one person, 76 groups of two people, 28 groups of three people, 19 groups of four people, four groups of five people, three groups of six people, two groups of seven people and one group composed of nine people. Time measurements were obtained on 44 people in 19 of the 153 groups. These groups were distributed as follows: five groups of one person, eight groups of two people, one group of three people, and five groups of four people.

The subjects in this study were all the people in the restaurant on which it was possible to gather data between 5:30 and 9:30 p.m. The study was conducted for six consecutive evenings (Saturday through Thursday) during the week of June 11-16, 1977.

Study Site

The setting was an independently owned Mexican restaurant accessible to urban and rural people, as well as college students and military personnel. The menu ranges

from an eighty-five cent hamburger to a ten dollar and ninety-five cent dinner for two.

Procedure

The restaurant manager explained to the waitresses that the experimenter was there to do "a survey on tipping". The waitresses were asked to cooperate with the experimenter, but no mention was made of the fact that they also would be timed while they were with the dining groups. This was done because knowledge of the timing could possibly effect their normal behavior. To maintain the integrity of the scientific relationship, a complete report of the study is being made available to the owner and employees of the restaurant.

Due to the need for secrecy in the timing process, measurements could be made on only one group at a time. Each party had to be watched closely from the time they entered the restaurant until the time they left. This meant that only a small portion of the total groups could be timed. The experimenter stood in full view of the diners with a stopwatch concealed in his pocket. Each party was seated and given menus by the hostess. This was not included in the time measurement. Instead, the duration of each visit by the waitress began when she approached within approximately ten feet of the dining party. This was done to allow for reaction time of the experimenter. The timing ended when the waitress turned away from the group. When the timed party paid the check, the time

measurement was recorded in minutes and seconds, and later it was converted to hundreths of a minute.

The selection of which dining party was to be timed was situationally determined. The first party to enter the restaurant at the beginning of the observation period was chosen. The amount of time the waitress spent with the group was surreptitiously measured by the experimenter. When the group left the restaurant and after the data were recorded, the next group that entered the restaurant was chosen to be the next timed group. The only exceptions were that parties with small children (requiring extra service, highchairs, etc.) were excluded. Also all possible single diners were timed due to their small proportion in the total restaurant population.

As a party left the restaurant, the experimenter counted the size of the tip left at the table and recorded this along with the amount of the bill, and the size of the party. These data were gathered on all groups that situational factors allow with the exception of those people who made complaints, got order errors, etc.

Children were counted as full adult members unless they required a highchair, in which case they were excluded from the number in the party. This rule for determining the size of the party was somewhat arbitrary, but it was assumed that these parties received extra attention and it was an easy delineation to observe.

CHAPTER V

RESULTS

The overall tip left by all groups in this study was 9.57%. Groups of four to six persons tipped an average of 8.96%, three person groups tipped 8.19%, two person groups left 8.26% and individuals left an average of 12.85%. However, the overall tip left by groups in this study was less than in the Freeman et al. study, 9.57% vs. 15.02%, respectively.

The inverse relationship between group size and tip size found by Freeman et al. was replicated, $r(151) = -.140$, $p < .05$. A one-tailed test was used because the relationship was predicted by two theoretical positions and is merely a replication of previous results. It should also be noted that this correlation is almost identical to that found by Freeman et al., $r = -.16$.

To test the equity theory prediction posited by Snyder, the time the waitress spent with each group was correlated with the other observations for 19 of the dining parties. These correlations are presented in Table 1. Consistent with the equity theory predictions, there is a marginally significant negative correlation between the amount of time per person the waitress spent with each party and the group size; $r(17) = -.366$, $p < .08$,

one-tailed. Also, there is a positive though nonsignificant correlation between the time per person the waitress spent with each party and tip size, $r(17) = .174$. Further problems involving this small sample of timed groups is that the overall obtained negative correlation between tip size and group size was not replicated, $r(17) = -.022$, n.s. Even with the time per person held constant, the correlation was not altered substantially, $r(16) = .082$, n.s. This most probably reflects the fact that the relationship is small in itself, and susceptible to external factors, e.g., purpose for dining out, number of children, etc.

Following Elman's suggestion, another test of the equity explanation was conducted by comparing the correlation between tip size and bill size for individuals holding the size of the dining party constant. In order to do this, the average bill per person was computed for parties of more than one individual, and each person's tip was the percentage of the bill left by the group. For the 44 individuals within the timed groups, this resulted in a marginally significant negative correlation, $r(41) = -.221$, $p < .07$, one-tailed. A similar procedure was done for the 393 people in the sample. The partial correlation in this case was not different from zero, $r(390) = .024$

Table 1

Correlations between Observations for Timed Groups

	Group Size	% Tip	Bill
Time/Person	-.366	.174	-.161
Group Size	-	-.022	.678*
% Tip			-.098

 $\underline{n} = 19$ groups $\underline{p} < .01$

CHAPTER VI

DISCUSSION

The first goal of this study was achieved. The small inverse relationship between the size of the dining party and the percentage of the bill left as a tip found by Freeman et al. (1976) was replicated. Since the present study was conducted in a different region of the country with a smaller sample and in a different type of restaurant, this adds additional substance to the validity of the phenomena.

A second goal of the present study, testing the equity theory explanation of the relationship between tip size and group size, also met with some success. According to Elman (1976), diners might equate the service they get with the size of their bill. One reason groups might tip less than individuals, then, is that groups have larger bills than individuals but the difference in service is slight. Equity theory predicts that with the size of the dining party held constant, there would be a negative relationship between bill size and tip size. A clear test of this proposition that reduces the plausibility of a diffusion of responsibility explanation would be to determine the relationship between the individuals' bills and the tip left, with the contaminating factor of group size held constant.

This was done in the present study and the hypothesized inverse relationship between bill size and tip size derived from equity theory received marginal support.

Another proposition derived from equity theory was tested also. Snyder (1976) pointed out that tipping, in part, is based on service. Since the members of a group would receive less service per person than individuals, the negative relationship between tip size and group size should be eliminated when the amount of service received is held constant. In the present study, the amount of service rendered by the waitress was equated with the amount of time she spent per person with each dining party. As expected, less time per person was spent with groups than with individual diners, but this relationship was not significant.

This study lends only weak support to the equity theory explanation, but the marginal results do suggest that equity might be a better explanation than diffusion of responsibility. As to why more of the relations were not significant, there are several possible variables that might have acted to attenuate the critical relationships.

One possible factor that might need to be controlled is the time period of the study. Since a number of people in the area of the study site are paid on a bi-monthly or monthly basis, the availability of funds for dining out might be a factor to be considered. Another factor that

might effect the critical relationship is the purpose for eating out, e.g., whether or not it is an occasion for celebrating. A great deal of literature suggests that having experienced recently some success or simply being in a good mood makes people act more generously (Isen, 1970; Isen, Horn, & Rosenhan, 1973; Isen & Levin, 1972; Levin & Isen, 1975). Also, another possible contributing factor is whether or not the group includes children or only adults. Some evidence suggests that the presence of children does not inhibit prosocial behavior as the presence of adults (Ross, 1971). Thus, a family might tip more than a similar size group of adults. Since most of the groups consisting of more than two people in the present study were families, it is possible that the overall inhibition on tipping was as strong as in the Freeman et al. study. Moreover, since the size of the tips was smaller, the range might also have attenuated the critical relationship.

The problem of controlling extraneous variables is always a problem in field studies, and after-the-fact speculation is never a satisfactory explanation for weak results. However, the present study does provide some additional suggestive evidence for the equity explanation of the relationship between group size and tipping, which perhaps can be more strongly established under conditions of greater control.

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